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## China, Peoples Republic of

### Fishery Products

### China's Fish Meal Sector Report

### 2004

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**Report Highlights:**

Like many other major fish meal producing countries, China's fish meal production continues to decline -- from about 400,000 MT in 2003 to an estimated 386,000 MT in 2004. The primary cause of the decline is the shrinking marine fish stocks and related catches. Meanwhile, consumption remains high at 1 to 1.3 MMT. Imports fluctuate between 0.8 to 1 MMT. The shrinking catches are pushing international prices up to levels where customers look for substitutes.

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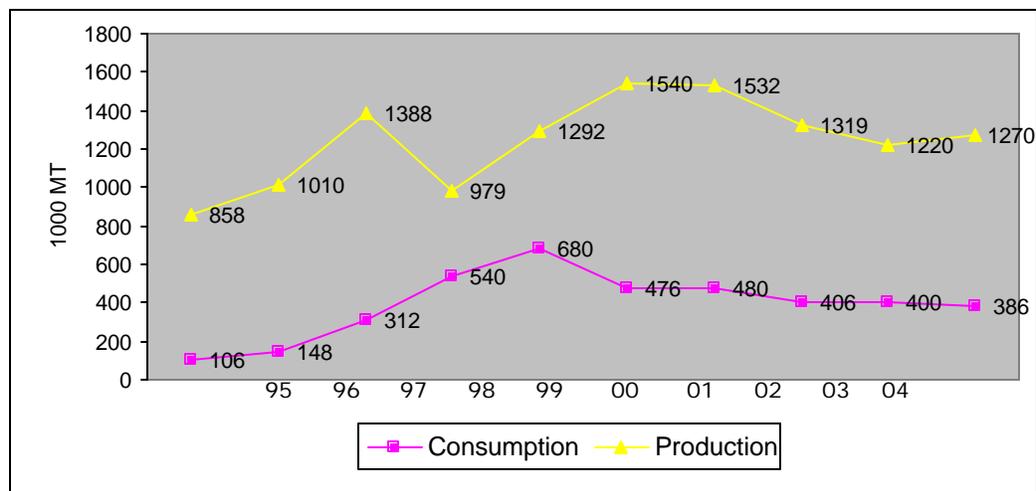
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## Domestic Fish Meal Industry

*Overview:* Industry sources reported that there currently are over 500 plants processing fish meal throughout China. Their total installed processing capacity is about 1.5 million metric tons (MMT) per year. The actual annual production, however, was considerable less – about 400,000 metric tons in 2003. Over two-thirds of the capacity stands idle mainly due to a shortage of raw fish. China's fish meal industry started from 1980's in coastal regions of Zhejiang province. Most plants employed labor intensive technology and produced relatively low-quality fish meal containing high levels of fat. In the 90's, the industry developed rapidly in Shandong province's Rongchen region. Some collectively owned (township or village) plants adopted more advanced "Steam Dry" technology that resulted in more de-fatted fish meal. Since 1998, soaring prices and high profitability in the fish meal industry, attracted many fish farmers and outside investors into the sector, especially in the coastal regions. About 150 new processing lines were added in 1998 alone. This brought the nation's total processing capacity to 1.5 million MMT. Raw materials for producing meal, however, declined dramatically year-by-year as a result of over fishing in China's coastal waters, where the marine fisheries resources are limited.

*Production:* Domestic production for 2004 is forecast to drop further from 2003's estimated 400,000 MT, as compared to 755,000 MT in 1999 when it peaked. (See chart 1). Shandong and Zhejiang ranked as the two largest producing provinces, followed by Liaoning and Guangdong provinces. These four provinces account for over 90 percent of the domestic production. Industry insiders believe China's official statistics for production often overstate the actual quantity produced because producers/traders often add low quality filler material to the meal to increase their profits. Although China's enjoys a long coast line, the supply of the primary species used for fish meal – anchovies, sardines, and jack mackerel -- are limited. Over fishing during the past decade is the primary reason for the disappearance of Jack Mackerel. Sardines are increasingly used as fresh feed for the rapidly expanding marine aquaculture. The only specie available is anchovy. According to a joint survey conducted by China's Ministry of Agriculture (MOA) and the Netherlands, total anchovy resources are about 5 MMT in China's coastal waters, with annual possible catch of approximately 500,000 MT. Some industry insiders and experts, however, believe that China's domestic production should be capped at about 200,000 MT if it wants to maintain its marine resources at sustainable levels. In reality, as a result of over fishing since 1986, the anchovy catch has dropped each year. Also, industry sources reported that the average size of anchovies caught has dropped to 5-6 cm in Shandong and the situation continues to worsen, as the government's fishing moratorium has not been effectively implemented.

Chart 1. China's Fish Meal Production and Consumption from 1995-2004



Source: China JCI; 04 data is an estimate

**Quality:** The quality of domestic fish meal reportedly has declined along with the quantity. Both the protein and oil content have dropped. Part of the lower protein content can be attributed to producers' use of shrimp powder, which is worth less than fish meal, as filler material. Inferior fish meal reportedly often is blended with other filler ingredients, such as feather, leather, organic powders (blood and grass), and rapeseed meal. This has hurt the domestic industry's reputation. The tight availability of both raw fish and fish meal, concurrent with the growing demand for animal protein feed, is behind these practices. The highly fragmented industry, which is characterized by many small, family-owned businesses, has made quality control a difficult task. The government's weak enforcement of the regulations also has contributed to the problem. The quality of domestic fish meal produced by the larger plants was higher because they use advanced technology and their close proximity to the end-users ensured freshness.

**Processing and Marketing:** As mentioned above, China's fish meal industry is characterized by many family owned businesses together with a few larger plants that operate at less than full capacity. The industry started in the 1980's with simple equipment. In an effort to boost domestic production and domestic brands, the Chinese government, mainly MOA, provided assistance to develop the industry in the leading producing areas such as Shandong province's Rongcheng and Zhoushan in Zhejiang province. Some facilities were equipped with processing capacities up to 60,000 MT per year. Many of these facilities, however, were poorly designed and never operated at full capacity due to the shortage of raw fish. Meanwhile, small household plants effectively competed for raw fish and forced many of the larger plants into bankruptcy. Many subsequently were dismantled. As a result, those small-scale plants, meaning those with several hundred or several thousand metric tons actual capacity, are the main players in the sector. In Rongcheng, Shandong, there reportedly are nearly one hundred plants, which usually operate from October to February every year. Most are idle the rest of the year. One of the largest plants indicated that, although it's maximum processing capacity is 60,000 MT per year, the actual annual production was only 10,000 MT and that is expected to decline year by year.

Today's domestic products' market share has fallen and the distribution area has shrunk to provinces near the plants. Feed mills purchase fish meal from plants or traders. It is transported by railway, road, or sea. Most of the products are sold unbranded and the actual nutrients contents could be much lower than what is shown in the specifications. In addition,

many of the small household plants create serious water and air pollution in the producing regions.

### Consumption

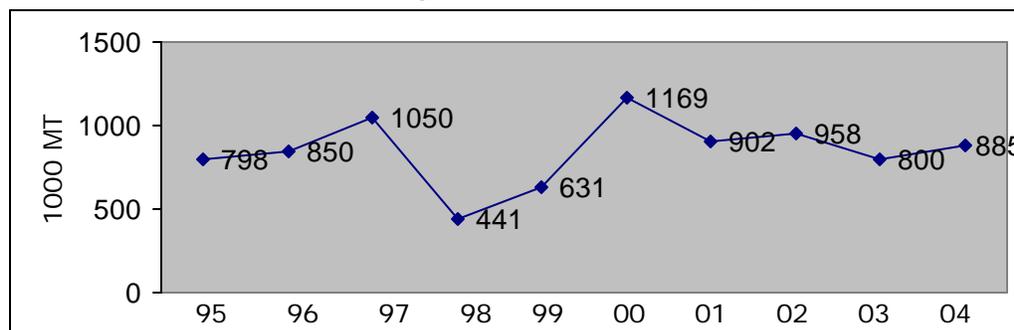
China remains the largest fish meal consumer in the world. Its annual consumption has averaged 1.38 MMT over the past five years. Consumption hit a record of 1.54 MMT in 2000. Industry sources project that consumption will fluctuate between 1 to 1.3 MMT in the near term, depending on the global supply/price situation.

Feed consumption has grown rapidly along with the rapid development of China's livestock and aquaculture industries. Feed production grew by about 6 to 7 percent in past years and reached 83 MMT in 2002. The outbreak of SARS in 2003 limited the growth rate to 5 percent and the outbreak of avian influenza is expected to keep the growth rate the same in 2004. Aquaculture feed accounted for 7.5-8 MMT out of the total feed produced. This demand has been driven by China's consistently high GDP growth rate, improved living standards, and surging exports of aquatic products. High quality fish meal is an indispensable protein source for many aquaculture species, including shrimp, eel and soft-shelled turtles. Some sources reported that fish meal accounts for 60-70 percent in the feed for eel, 50 percent for soft-shelled turtle production, and 20-35 percent in shrimp and fish aquaculture. The aquaculture industry continues to take an increasing share of fish meal consumption, especially the prime quality. In the face of raising prices, however, feed mills are substituting lower cost protein sources for fish meal in their rations. These include bone and chicken meat meal, and plant protein as well. The fish meal content in poultry feed has declined to its current level of 2-3 percent, and rarely is added in the majority of livestock feeds. This has attributed to the drop in consumption since 2001.

### Trade

China has been a net importer of fish meal during the past decade. Its imports have averaged 892,000 MT per year over the past five years. Imports in 2004 are forecast to rise moderately to 885,000 MT from 800,000 in 2003. Given China's shrinking domestic supply coupled with strong demand, this trend is expected to continue in the short term. (See Chart 2). The prevailing high price and reduced catch in major producing countries has limited world supplies available for China to import.

**Chart 2: China's Fish Meal Imports from 1995-2004 (in 1000 MT)**



Source: China Customs Statistics; 04 Data is an estimate.

Peru is the largest supplier of fish meal imports to China, followed by Chile and United States. In the past five years, Peru's exports to China totaled 3.1 MMT, accounting for 69 percent of the total 4.47 MMT imports. US exports remained stable -- ranging from 60,000 to 70,000 MT annually during the 1999-2003 period. (See table 1). Industry sources reported

that containerized fish meal shipments have been increasing in recent years. The reason was said to be competitive freight rates compared to bulk shipments and more flexibility in terms of quantity/quality and origins. Another noticeable trend has been increased demand for high quality steam-dried (SD) fish meal from the aquaculture sector. Shanghai, Fuzhou and Guangzhou in order ranked the three most important ports of entry for fish meal. Several other ports also receive lesser quantities each year as traders arrange arriving ports based on the location of their customers. The leading importers include a few Hong Kong based traders and Beijing-based State Owned companies (See Table 6). Some of which are involved in sourcing, importing and then redistributing through their nationwide marketing channels., One Hong Kong based trader, for example, exported about 150,000 MT in 2003. Marketing of imported fish meal is becoming increasing convenient thanks to the Internet and other modern communication tools. Importers, domestic traders, and mills are closely linked which facilitates efficient marketing and distribution. In most cases, imports are distributed at the ports to reduce warehousing costs.

### Policy

MOA's Fisheries Industry Division is in charge of marine fishing and aquatic products processing. MOA's regulations stipulate that processing plants must be registered and licensed. An industry source estimated that there currently are about 500 licensed production plants. However, there also are many small-scale plants that operate without licenses. The latest official source showed renewal or issuance of licenses has virtually stopped since the beginning of 2004, as the shrinking production limits the incentive to register. The current quality control problems can be attributed to a poor administrative system. Shifting responsibility from the Department of Fisheries to the Feed Industry Department could improve the quality control. In addition, several industry associations are involved in fishmeal policy affairs, including China Feed Industry Association, China Aquatic Products Processing & Marketing Association ([www.cappma.com](http://www.cappma.com)), and Fish Meal and Oil Commission of China Feed Online. ([www.chinafeedonline.com](http://www.chinafeedonline.com)).

China's government encouraged fish meal production in the 1990's in order to meet the growing animal protein demand from China's expanding livestock industry. The available resources, however, did not keep pace with the growth of the sector. In 1995 the Government realized that China's fisheries resources were being depleted, so it implemented a seasonal fishing moratorium. The months of the moratorium vary by location. It is either June-August or July-September, depending on the area. Although compliance and enforcement of the moratorium has not been as written, most sources concede that it has slowed the rate of depletion somewhat. MOA asserts that the moratorium has facilitated a sustainable development of the fishing industry and the populations of select species have begun to recover. Most farmers have a higher awareness of protecting marine resources than a decade ago and, according to MOA, readily abide by the ban. Sources expect the moratorium will be maintained into the foreseeable future.

Imports of fish meal are liberalized and market driven. They currently are subject to a 2 percent import tariff, but redistribution is exempted from value added tax (VAT). Based on "Registration and Administrative Measures on Imported Feed and Additives" issued by MOA, traders are requested to have their products registered and approved by MOA. Samples are supposed to be subjected to testing by approved laboratories. In practice, Chinese importers or agents complete these procedures. According to one industry source, a total of 177 overseas fish meal traders reportedly are registered and permitted to export fish meal to China, of which 17 are from the United States.

On June 1, 2003, China published the State Fish Meal Standard. It took effect on December 1 of that same year. The standard establishes four grades based on crude protein, crude fat,

moisture, ash and salt. Industry sources, however, reported that these standards have not yet been incorporated in importing contracts. As of this writing, traders still use their conventional import contract terms. Some domestic producers are not even aware of the new standard and continue marketing products the same as before the new standard took effect. Some industry insiders expressed doubts about its feasibility and necessity, which does not bode well for compliance. The common practice in current Chinese rule making tends to lean toward establishing trading standards, not SPS standards. This amounts to little more than managing trading rather than assuring animal and food safety.

#### Price

The price of fish meal in China is largely driven by the global market. In response to the shrinking global catch, the prices of fish and fish meal have increased rapidly in recent years. The price of domestically produced products, however, usually is less than imported. As production in the major South American producing countries has dropped, prices in China remained high throughout 2003 and are not expected to fall in 2004. These recent high prices prompted some less than scrupulous producers to blend in low cost filler materials to maintain their profits.

With the establishment of a marketing network, prices are more transparent than before. The prevailing price information for both domestic and imported products are updated in several websites and media. For this information please refer to websites: <http://www.chinafeedonline.com>; <http://www.chinafeed.org.cn>; <http://www.chinajci.com> and <http://www.cappa.com>.

**Table 1. China's Fish Meal Imports by Origins from 1999-2003 (Metric Tons)**

	1999	2000	2001	2002	2003	TOTAL
TOTAL	631,484	1,185,653	901,759	958,151	800,250	4,477,298
1 Peru	400,006	941,877	652,763	640,160	458,143	3,092,948
2 Russia	81,896	88,402	53,255	44,443	32,489	300,484
3 Chile	44,149	51,127	88,843	158,163	152,519	494,801
4 United States	57,172	59,246	70,075	68,920	72,867	328,280
5 Poland	5,724	3,469	2,309	88	0	11,590
6 Japan	601	303	77	18	0	999
7 New Zealand	20,341	22,799	22,584	21,423	24,809	111,955
8 Canada	196	68	0	196	3,839	4,299
9 France	50	50	0	0	0	100
10 Taiwan	261	476	14	0	57	809
Other	21,088	17,835	11,840	24,741	55,529	131,032

**Table 2. China's Fish Meal Imports by Value from 1999-2003 (in million US\$)**

	1999	2000	2001	2002	2003
TOTAL	361.35	572.31	481.37	633.49	517.34
1 Peru	186.72	394.86	293.37	393.49	277.07
2 Russia	67.89	73.00	46.22	37.52	26.37
3 Chile	24.49	28.40	56.44	112.99	102.20
4 United States	43.61	42.35	56.24	56.83	59.22
5 Poland	4.89	2.90	2.13	0.07	0.00
6 Japan	0.43	0.22	0.04	0.01	0.00
7 New Zealand	18.08	19.18	19.46	18.28	20.17
8 Canada	0.12	0.06	0.00	0.12	2.59
9 France	0.08	0.08	0.00	0.00	0.00
10 Taiwan	0.21	0.33	0.01	0.00	0.08

**Table 3. China's Fish Meal Imports by Ports from 1999-2003 (Metric Tons)**

	1999	2000	2001	2002	2003
TOTAL	631,484	1,185,653	901,759	958,151	800,250
1 Shanghai	183,233	384,883	258,935	277,897	188,635
2 Fuzhou	159,694	183,282	170,582	173,193	179,917
3 Huangpu	70,260	213,748	144,624	208,130	167,277
4 Guangzhou	18,294	25,302	37,731	53,318	64,422
5 Zhanjiang	14,526	44,350	29,342	24,439	43,977
6 Dalian	39,446	61,409	54,288	58,379	35,103
7 Tianjin	25,876	73,899	71,049	49,388	32,506
8 Nanning	11,978	30,887	35,792	42,346	28,503
9 Xiamen	16,441	18,415	17,706	26,867	25,089
10 Qingdao	56,290	82,936	19,224	30,327	16,605

**Table 4. China's Fish Meal Imports from Jan to Apr, 04 (Metric Tons)**

	Jan	Feb	Mar	Apr	TOTAL
TOTAL	54,874	55,291	51,096	81,857	243,118
1 Peru	30,604	42,520	30,161	49,793	153,078
2 United States	5,175	155	7,441	12,657	25,428
3 Russia	698	827	1,140	8,295	10,960
4 Chile	10,763	5,978	7,548	4,876	29,166
5 Argentina	800	1,709	1,292	1,511	5,313
6 New Zealand	1,248	1,777	1,113	1,249	5,387
7 Malaysia	165	103	625	753	1,645
8 Thailand	0	0	0	734	734
9 Myanmar	968	244	300	538	2,050
10 Norway	135	63	40	472	709

**Table 5. China's Fish Meal Average Import Price from 1999-2003 (US\$/Kg)**

	1999	2000	2001	2002	2003
-- World --	0.57	0.48	0.53	0.66	0.65
1 Peru	0.47	0.42	0.45	0.61	0.6
2 Russia	0.83	0.83	0.87	0.84	0.81
3 Chile	0.55	0.56	0.64	0.71	0.67
4 United States	0.76	0.71	0.8	0.82	0.81
5 Poland	0.85	0.84	0.92	0.83	0
6 Japan	0.72	0.73	0.56	0.53	0
7 New Zealand	0.89	0.84	0.86	0.85	0.81
8 Canada	0.63	0.81	0	0.63	0.68
9 France	1.5	1.55	0	0	0
10 Taiwan	0.82	0.7	0.45	0	1.4

Table 6. Sample of Major Fish Meal Traders

Name	Location	Contact
Coland Holding Ltd.	Hongkong and Fuzhou	<a href="http://www.coland.com.cn">www.coland.com.cn</a>
G.C. Luckmate Trading Ltd.	Hongkong and Shanghai	<a href="http://www.gcluckmate.com">www.gcluckmate.com</a>
Teampower Trading Ltd.	Hongkong	<a href="http://www.fishmeal-tp.com">www.fishmeal-tp.com</a>
China Animal Husbandry Group	Beijing	<a href="http://www.cahg.com.cn">www.cahg.com.cn</a>
China National Feedstuff Group	Beijing	<a href="http://www.cnfgc.com">www.cnfgc.com</a>
Shanghai Power Resources Trading Ltd.	Shanghai	<a href="http://www.powerfeed.com">www.powerfeed.com</a>
Hualian Grain and Oil Trade Ltd.	Shenzhen	Fax: 0755-82281199
COFCO Group	Beijing	<a href="http://www.cofco.com">www.cofco.com</a>